



DEPARTMENT OF HOMELAND SECURITY

Ideation Prize Competition

AGENCY: Science and Technology Directorate

ACTION: Notice

SUMMARY: The Department of Homeland Security (DHS) gives notice of the availability of the "Where am I, Where is my Team?" ideation prize competition and rules. The DHS Science and Technology Directorate (DHS S&T) First Responders Group (FRG) is seeking innovative methods for real-time, robust indoor tracking of the next generation first responder. The development of sensors and communications able to perform well across a variety of indoor environments is one of the biggest challenges in first responder tracking research and development. This prize competition seeks personalized, modular and scalable approaches to track the next generation of first responders indoors using current and emerging technologies, sensors, and techniques. Submissions should consist of a concept/design for a low cost, robust, real-time indoor tracking capability. The total cash prize payout for this competition is \$25,000 (USD) consisting of a first place award of \$20,000 (USD) and a second place award of \$5,000

(USD). The awards will be paid to the best submission(s) as solely determined by the Seeker.

This prize competition consists of the following unique features:

- Terminology
 - Seeker: DHS S&T First Responders Group
 - Solvers: Ideation Prize competition submitters
- The Solvers are not required to transfer exclusive intellectual property rights to the Seeker. Rather, by submitting a proposal, the Solvers grants to the Seeker a royalty-free, perpetual, and non-exclusive license to use any information included in this proposal.

DATES:

Submission Period Beginning Date: March 3, 2015

Submission Period Ending Date: All submissions must be received electronically as indicated in this announcement by 11:59PM Eastern Standard Time on Thursday, April 2, 2015. Late submissions will not be considered. All dates are subject to change. For more details please visit the www.challenge.gov Web site.

ADDRESSES: Questions about this prize competition may be e-mailed to innohelp@innocentive.com

FOR FURTHER INFORMATION CONTACT:

Prize Competition Manager: Mr. Stephen Hancock

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SUPPLEMENTARY INFORMATION: The America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Reauthorization Act of 2010 (The America COMPETES Act), Public Law 111-358, enacted January 4, 2011, authorizes Federal agencies to issue competitions to stimulate innovations that could advance their missions. Interested persons can find full details about the competition rules and register to participate online at www.challenge.gov. Contest rules are subject to change.

Subject of the Prize Competition: Indoor Tracking of the Next Generation First Responder

Eligibility Rules: To be eligible to win a prize under this competition, an individual or entity-

- (1) Shall have registered to participate in the competition under the rules promulgated by the Department of Homeland Security, Science and Technology Directorate and in accordance with the description provided, below, under "Registration Information;"
- (2) Shall have complied with all of the requirements under this section;
- (3) Pursuant to the America COMPETES Act of 2010, awards for this Prize competition may only be given to an individual that is a citizen or legal permanent resident of the United States, or an entity that is incorporated in and whose primary place of business is in the United States, subject to verification by the Seeker before Prizes are awarded. An individual or private entity must be the registered entrant to be eligible to win a prize. Further restrictions apply - see the Ideation Challenge-Specific Agreement found at the competition registration Web site and this Federal Register Notice for full details.
- (4) Contestants must own or have access at their own expense to a computer, an Internet connection, and any other electronic devices, documentation, software, or

other items that Contestants may deem necessary to create and enter a Submission;

- (5) The following individuals (including any individuals participating as part of an entity) are not eligible regardless of whether they meet the criteria set forth above:
- (i) any individual under the age of 18;
 - (ii) any individual who employs an evaluator on the Judging Panel (hereafter, referenced simply as a "Judge") or otherwise has a material business relationship or affiliation with any Judge;
 - (iii) any individual who is a member of any Judge's immediate family or household;
 - (iv) any individual who has been convicted of a felony;
 - (v) the Seeker, Participating Organizations, and any advertising agency, contractor or other individual or organization involved with the design, production, promotion, execution, or distribution of the Contest; all employees, representatives and agents thereof; and all members of the immediate family or household of

any such individual, employee, representative, or agent;

(vi) any Federal entity or Federal employee acting within the scope of his or her employment, or as may otherwise be prohibited by Federal law (employees should consult their agency ethics officials);

(vii) any individual or entity that used Federal facilities or relied upon significant consultation with Federal employees to develop a Submission, unless the facilities and employees were made available to all Contestants participating in the Contest on an equal basis; and

(viii) any individual or entity that used Federal funds to develop a Submission, unless such use is consistent with the grant award, or other applicable Federal funds awarding document. If a grantee using Federal funds enters and wins this Contest, the prize monies will need to be treated as program income for purposes of the original grant in accordance with applicable Office of Management and Budget Circulars.

Federal contractors may not use Federal funds from a contract to develop a Submission for this competition.

- (ix) Employees and contractors of the Department of Homeland Security, Science and Technology Directorate are ineligible to compete in this competition. Likewise, members of their immediate family (spouses, children, siblings, parents), and persons living in the same household as such persons, whether or not related, are not eligible to participate in any portion of this competition, shall not work on their submission during assigned duty hours.
Note: Federal ethical conduct rules may restrict or prohibit federal employees from engaging in certain outside activities, so any federal employee not excluded under the prior paragraph seeking to participate in this competition outside the scope of employment should consult his/her agency's ethics official prior to developing a submission; and
- (x) Individuals, contractors and educational institutions currently participating in or

pending participation in a DHS program of the same subject of the competition or connected to or aligned with the competition subject are ineligible to compete in this competition.

(6) For purposes hereof:

(i) the members of an individual's immediate family include such individual's spouse, children and step-children, parents and step-parents, and siblings and step-siblings; and

(ii) the members of an individual's household include any other person who shares the same residence as such individual for at least three (3) months out of the year.

(7) Per 15 U.S.C. 3719(h), an individual or entity shall not be deemed ineligible under these eligibility rules because the individual or entity used Federal facilities or consulted with Federal employees during a competition if the facilities and employees are made available to all individuals and entities participating in the competition on an equitable basis; and

(8) Use of Marks: Except as expressly set forth in the Participant Agreement or the contest rules, participants shall not use the names, trademarks, service marks, logos, insignias, trade dress, or any other designation of source or origin subject to legal protection, copyrighted material or similar intellectual property ("Marks") of the organizers or other prize competition partners, sponsors, or collaborators in any way without such party's prior written permission in each instance, which such party may grant or withhold in its sole and absolute discretion.

(9) An individual or entity that is currently on the Excluded Parties List will not be selected as a Finalist or prize winner.

Registration Information: To be eligible to win a prize under this competition, the Solver shall have registered to participate in the contest under the process identified on the central Federal website where government competitions are advertised (Challenge.gov). Access the www.challenge.gov website and sort by: Department of Homeland Security and then select the "Where Am I, Where is My Team?" contest. Solvers will be directed to an external

website created specifically for the competition to obtain contest information, register for the contest including signing the Ideation Challenge-Specific Agreement and submit their entry. After the competition deadline, the Seeker will complete the review process and make a decision with regards to the Winning Solution(s). All Solvers that submitted a proposal will be notified on the status of their submissions; however, no detailed evaluation of individual submissions will be provided.

Submission Requirements: This competition requires a written proposed solution which describes a novel method for tracking capabilities of the next generation first responders while they are inside of a structure without having to set up prepositioned towers or other devices.

Background information to assist in the completion of submission: The ability to use Global Positioning System (GPS) technology is extremely limited for indoor tracking capabilities due to its weak signal strength and inability to penetrate buildings. There are limited alternatives to GPS, such as wave measurements, magnetic fields, sonar/acoustics, mobile devices, etc. Each alternative has benefits and limitations and offers varying levels of tracking capabilities. This competition seeks innovative

solutions that can help track next generation first responders while they are inside of a structure without having to set up prepositioned towers or other devices. The building structure may be concrete, steel, glass or any combination of modern building materials and of varying heights. Ideally, a solution will be wearable; self-reporting to provide real-time x, y, z positioning; and mission-agnostic thereby allowing for use by any first responder discipline (e.g., law enforcement, firefighting, emergency medical services, and emergency management).

Submissions to this prize competition shall include:

- (1) A comprehensive description including drawings and diagrams, as appropriate, of the proposed solution in 10 pages or less, 8.5 x 11 inch page, 12-point font or greater and one inch margins including:
 - (i) A one-paragraph executive summary that clearly states the technical question to be solved;
 - (ii) Background information supporting the significance of the technical question(s) and the proposed approach, pitfalls, and validation scheme that addresses efforts to support reproducibility; if possible, citing selected

peer-reviewed articles that strengthen the proposed solution;

- (iii) Descriptions of methods and technologies key to implementation;
- (iv) A "state-of-the-art" statement that describes approaches currently in use (if any) and clearly explains how the methods and measures proposed advance existing capabilities; and
- (v) A feasibility assessment and a statement describing your ability to execute the proposed solution, including the estimated timeframe, supporting precedents and any special resource you may have or will need.

Liability and Indemnification Information: By participating in this competition, each Solver agrees to assume any and all risks and waive claims against the Federal Government and its related entities, except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from participation in this competition, whether the injury, death, damage, or loss arises through negligence or otherwise. Likewise, each

Solver agrees to indemnify the Federal Government against third party claims for damages arising from or related to competition activities. In order to receive a Prize, a Solver will be required to complete, sign and return to the Seeker affidavit(s) of eligibility and liability release, or a similar verification document.

Payment of the Prize: Prizes awarded under this competition will be paid by the Seeker and must be received by the Solver(s) via electronic funds transfer. All Federal, state and local taxes are the sole responsibility of the winner(s). DHS will comply with the Internal Review Service withholding and reporting requirements, where applicable.

Judging: Solutions for this competition will be evaluated by a judging panel using the criteria and rating scales described below. Judges will review highly rated solutions for technical alignment to the Next Generation First Responder Apex program, relevance to the DHS mission, and potential integration with existing projects.

The three use cases, listed under (1) below, apply to this competition and, at a minimum; at least two of these must be addressed. The judging panel will use the following criteria and rating scales for evaluating proposed

solutions with high scores reflecting the most highly rated solutions: (Maximum 100 points; plus up to 50 bonus points)

(1) Building structure (0-30 points) -

- (i) Case 1 - Should be able to track multiple first responders inside of a 2-story residential structure above and below grade;
- (ii) Case 2 - Should be able to track multiple first responders inside of a warehouse structure with a minimal footprint of 20,000 square feet;
- (iii) Case 3 - Should be able to track multiple first responders inside of a multi-storied commercial building above grade and below grade.

(2) Location Accuracy (0-50 points) - Location

capability should provide 3-dimensional positioning where X is less than or equal to 3 meters with a position error of less than equal to +/- 0.50 meters; where Y is less than or equal to 3 meters with a position error of less than equal to +/- 0.50 meters; and where Z is less than or equal to 2 meters with a position error of less than equal to +/- 0.25 meters.

(3) Real-time reporting (0-10 points) - The solution should be able to provide real-time reporting of +/-

15 seconds to the on-scene commander and must be able to transmit, omni-directional, position location no less than 1500 feet from within the structure.

(4) The modular form should be man-portable and weigh less than 5 pounds (0 - 10 points).

(5) Bonus Points (Maximum 50 bonus points) -

(i) Feasibility (Bonus worth up to 30 points) - Solvers should provide sufficient details to support the feasibility that the proposed solution can be demonstrated with further research and development in less than two years, including published or unpublished data, scientific basis, technological capability, and resources.

(ii) Adaptability (Bonus worth up to 20 points) - Must describe broad utility and scalability. The approach should lend itself to more than one first responder discipline, such as law enforcement, firefighting, and emergency medical services.

Additional Information: Intellectual Property -

(1) A Solver retains all ownership in intellectual property rights, if any, in the ideas, concepts, inventions, data, and other materials submitted in the prize competition. By entering the prize competition, each Solver agrees to grant to the United States Government, a Limited Purpose Research and Development License that is royalty free and non-exclusive for a period of four years from the date of submission. The Limited Purpose Research and Development License authorizes the United States Government to conduct research and development, or authorize others to do so on behalf of the United States Government. The Limited Purpose License does not include rights to commercialize the intellectual property in the Proposed Solution.

(2) Each Solver warrants that he or she is the sole author and owner of any copyrightable works that the Submission comprises, that the works are wholly original with the Solver (or is an improved version of an existing work that the Solver has sufficient rights to use and improve), and that the Submission does not infringe any copyright or any other rights of any third party of which Solver is aware.

Privacy: Personal information provided by entrants (Solvers) on the nomination form through the prize competition Web site will be used to contact selected finalists. Information is not collected for commercial marketing. Winners are permitted to cite that they won this competition. The names, cities, and states of selected winner or entity will be made available in promotional materials and at recognition events.

AUTHORITY: 15 U.S.C. § 3719

Dated: March 3, 2015

Reginald Brothers

Under Secretary, DHS Science and Technology Directorate

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